CLAIMS

1 An optical scanning device comprising:

- a radiation source for producing a radiation beam,
- means for dividing the radiation beam into a plurality of radiation sub-beams,
- focusing means for focusing the plurality of radiation sub-beams on an information carrier intended to reflect said plurality of radiation sub-beams towards a focus detection branch,
- focus error detection means, comprising on said focus detection branch, a servo lens for focusing said plurality of reflected radiation sub-beams onto a focus plane, a spatial filter for isolating a reflected radiation sub-beam from said plurality of reflected radiation sub-beams at the focus plane and a detector for detecting a focus error signal from said isolated reflected radiation sub-beam.

2 An optical scanning device as claimed in claim 1, comprising focus error correction means and decision means for deciding of a type of focus error correction depending of said detected focus error signal.

3 An optical scanning device as claimed in claim 2, wherein said decision means calculate a central aperture signal and decide to use the focus error signal for correcting a position of said focusing means if said central aperture signal is higher than a first predetermined threshold.

4 An optical scanning device as claimed in claim 2, wherein said detector comprises an extended detection area for calculating a normalised central aperture signal and said decision means decide to use the focus error signal for correcting a position of said focusing means if said normalised central aperture signal is higher than a second predetermined threshold.

5 An optical scanning device as claimed in claims 3 or 4, wherein, when said decision means decide not to use said focus error signal, the position of said focusing means is corrected of a predetermined unit step.

6 An optical scanning device as claimed in claim 1, wherein said spatial filter has a diameter, which is equal to a separation of the spots at said focus plane.

7 An optical scanning device as claimed in claim 1, wherein said spatial filter comprises a slit.

8 An optical scanning device as claimed in claim 1, wherein said spatial filter comprises a hole.

9 An optical scanning device as claimed in claim 1, wherein the spatial filter is obtained by limiting a transmissive area of a wedge.

10 A method of reading out an information carrier, comprising the steps of:
- producing a radiation beam,
- dividing the radiation beam into a plurality of radiation sub-beams,
- focusing the plurality of radiation sub-beams on an information carrier intended to reflect said plurality of radiation sub-beams towards a focus detection branch,
- detecting on said focus detection branch a focus error from said reflected radiation sub-beams, comprising the sub-steps of:
  - focusing the reflected radiation sub-beams onto a focus plane,
  - spatially filtering said reflected radiation sub-beams,
  - splitting the filtered radiation sub-beams into two halves,
  - measuring a focus error signal from by spots formed by said filtered radiation sub-beams on a split detector.

11 A method of reading out an information carrier as claimed in claim 10, comprising a step of correcting a focus of said radiation sub-beams onto said information carrier, wherein the focus error detection step further comprises a decision sub-step for deciding of a type of focus error correction depending on said focus error signal.

12 A method of reading out an information carrier as claimed in claim 11, wherein said decision sub-step measures a central aperture signal from said spots and decides to

use said focus error signal if said central aperture signal is higher than a first predetermined threshold.

5